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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/777,561	02/12/2004	Paul Edward Klingsporn	34242	5745

7590 06/08/2005

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EXAMINER

STEIN, JAMES D

ART UNIT	PAPER NUMBER
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2874

DATE MAILED: 06/08/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/777,561	KLINGSPORN, PAUL EDWARD	
	Examiner	Art Unit	
	James D. Stein	2874	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☐ Claim(s) 1-24 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1-3, 9-11 and 17-19 is/are rejected.
- 7) ☒ Claim(s) 4-8, 12-16 and 20-24 is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 12 February 2004 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. ____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|--|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. ____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date <u>0504</u> . | 6) <input type="checkbox"/> Other: ____ |

DETAILED ACTION

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(a) the invention was known or used by others in this country, or patented or described in a printed publication in this or a foreign country, before the invention thereof by the applicant for a patent.

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

Claims 1-3, 9-11, and 17-19 rejected under 35 U.S.C. 102(a) and (e) as being anticipated by [USPUB 2004/0017969] to Gardner et al, which discloses a related 3-port coupler with two input fibers and a single output fiber.

With regard to claims 1, 9 and 17 and referencing fig. 1, Gardner et al. disclose an apparatus for combining multiple light signals, the apparatus comprising:

a receiving optical fiber (134);

an input optical fiber 106 adapted to carry a light signal, wherein the input optical fiber 106 is oriented along an optic axis having an inclination angle Θ' (see Fig. 1 and ¶0021) relative to the receiving optical fiber 134;

a collimating lens 102 (¶0020) interposed along the optic axis between the input optical fiber 106 and the receiving fiber 134 and adapted to collimate the light signal (see Fig. 1 and ¶0020);

and,

a focusing lens 132 (see ¶0021) interposed along the optic axis between the collimating lens 102 and the receiving fiber 134 and adapted to focus the collimated light signal 114 onto the receiving fiber 134 (¶0021).

Furthermore, the methods of combining multiple light signals of claims 9 and 17 are inherent to this disclosure.

With regard to claim 2, 10 and 18, in addition to the rejection of claim 1 previously discussed above, the collimating lens 102 shown in fig. 1 is inherently a convergent lens because both sides of the lens have a convex shape and the focal length is positive. The positive focal length f is indicated by the light rays converging to a point on element 116 after propagating through lens 102 (see also ¶0036). Furthermore, the methods of combining multiple light signals of claims 10 and 18 are inherent to this disclosure.

With regard to claim 3, 11 and 19, in addition to the rejection of claim 1 previously discussed above, Gardner et al. teach the collimating lens 102 to further comprise a GRIN lens (see , otherwise known as a gradient index lens in the art. Furthermore, the methods of combining multiple light signals of claims 11 and 19 are inherent to this disclosure (¶0040 and ¶0042).

Allowable Subject Matter

Claims 4-8, 12-16 and 20-24 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims. None of the cited prior art discloses or suggests the apparatus discussed above wherein the collimating lens has a first diameter and a first focal length and the input optical fiber has a numerical aperture, and wherein $\arctan(\text{the first diameter} / (2 + \text{the first focal length})) \geq \arcsin(\text{the numerical aperture})$.

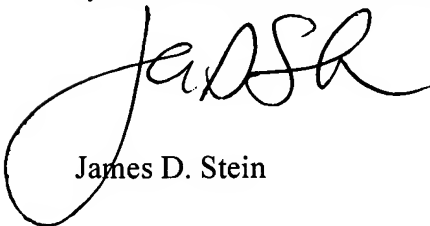
Conclusion

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. [USPUB 2003/0081901] to Gage et al. and [USPAT 6,707,965] to Gerber et al., which disclose related optical devices for combining multiple optical signals.


Any inquiry concerning this communication or earlier communications from the examiner should be directed to James D. Stein whose telephone number is (571) 272-2132. The examiner can normally be reached on M-F (8:00am-4:30pm).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Rodney Bovernick can be reached on (571) 272-2344. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



James D. Stein



Sung Pak
Patent Examiner
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